Exhibit 19
(1 of 2)

Third Affidavit of Thomas Hofeller, Ph.D.

STATE OF NORTH CAROLINA

COUNTY OF WAKE

IN THE GENERAL COURT OF JUSTICE

SUPERIOR COURT DIVISION

MARGARET DICKSON; *et al.*,   )
)
)
           Plaintiffs,   )
)   11 CVS 16896
    v.   )
)

ROBERT RUCHO, *et al.*,

)
)
           Defendants.   )
)
)
)

NORTH CAROLINA STATE CONFERENCE OF   )
BRANCHES OF THE NAACP, *et al.*,   )
)
)   11 CVS 16940
           Plaintiffs,

                                                 (Consolidated)

    v.

THE STATE OF NORTH CAROLINA, *et al.*,

           Defendants.

THIRD AFFIDAVIT OF THOMAS B. HOFELLER, PH.D.

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I. INTRODUCTION

The undersigned, being first duly sworn, deposes and says:

1.   My name is Thomas B. Hofeller, Ph.D. I have previously provided two affidavits in this case, the last of which was signed by me on February 8, 2012. I hereby incorporate my First and Second Affidavits by reference.

II. DR. PETERSON'S SEGMENT ANALYSIS

2.   Defendants have asked me to revisit my examination of the segment analysis of the 2011 enacted 12th Congressional District contained in the Second Affidavit of David W. Peterson.

3.   In my previous analysis, I stated that I had not received the database created by the Southern Coalition for Social Justice (SCSJ), which hampered my examination of Dr. Peterson's novel approach to analyzing the General Assembly's possible motives underlying the construction of the 2011 Enacted 12th Congressional District. I have subsequently received an electronic version of that database, which not only contains the data from SCSJ upon which Dr. Peterson relied, and, more importantly, identifies the actual census voting tabulation districts (VTD) divergent pairings determined by the SCSJ.

4.   There were a total of 330 VTD pairs contained in the SCSJ database, of which only 29 were determined to have been divergent, based on one or more of the demographic, partisan registration or actual election vote factors used by SCSJ. These 29 divergent VTD pairs and the information linked to the VTDs contained in the pairs, appeared to be the only information used by Dr. Peterson in his analysis.

5.   It is important to note that the enacted 2011 12th District was constructed (as were the 1997 and 2001 versions of 12th District) by linking together highly Democratic VTDs contained

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in Forsyth, Guilford and Mecklenburg Counties. These counties were linked together through a corridor, often one VTD wide, running through Davidson, Cabarrus and Rowan Counties. This configuration was approved by the *Cromartie* court when it reviewed the 1997 version of the district and accepted the State's assertion that the motivation for this configuration was political rather than racial.

6.   As far as I can determine, there were no objections raised in former redistrictings by Democrats or any minority organizations to the use of this connecting corridor concept.

7.   The 2011 Enacted 12th Congressional District contains 27 VTDs in the connecting corridor running through Cabarrus, Davidson, Forsyth and Rowan Counties. Seven of these VTDs were included in the newly enacted 12th because of their high Obama vote percentages in the 2008 General Election. Those same VTDs were also contained in the 2001 12th District corridor.

8.   None of the seven high-percentage Obama VTDs in the corridor have been identified as being in one of the divergent VTD pairs designed by the SCSJ and used to support Dr. Peterson's opinions.

9.   Sixteen out of Dr. Peterson's alleged 29 divergent pairs are located in the corridor. Sixteen VTDs located in the Enacted Plan's corridor contained in these 29 divergent pairs were clearly selected for geographic, not racial reasons, and should not have been used by Dr. Peterson.

10.   In addition, two VTD pairs in Forsyth County and two pairs in Mecklenburg County used either the same interior or exterior VTD. Using the same VTD twice adds bias to the study and

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one pair from each county, using the same VTD, should not have been used by Dr. Peterson. This would be the equivalent of using the same respondent in a random sample survey twice.

11. Even assuming that this study is truly relevant to determining the General Assembly's motivations when drafting the 2011 12th Congressional District, this means that only 11 of the VTD divergent pairs selected from the 330 VTD pairs contained in the SCSJ database should actually have been used by Dr. Peterson in his analysis, not the 29 divergent pairs upon which he based his analysis.

12. Eleven divergent pairs out of 330 total pairs are not a statistically sufficient number from which to draw any meaningful conclusions.

13. My conclusion is further strengthened by the fact that Dr. Peterson used a binary (1 or 0) indicator for conducting his study of the SCSJ's segment analysis, without accounting for either the number of persons in the VTDs or the amplitude (or level) of divergence between each VTD in each divergent pair. This fatally biases the results of his study.

14. Use of a binary indicator can lead to completely faulty conclusions in political or redistricting analysis. For example, if, instead of using the actual votes casts, one assigns binary indicators to each of North Carolina's precincts for its 2008 Obama vote (a "1" if Obama received more votes than McCain and a zero if he didn't), then Obama's statewide binary vote would be 1,105.

15. If one followed the same procedure for Senator McCain, he would have received 1,585 statewide binary votes and carried North Carolina by a 59% to 41% margin.

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16.   Of course, McCain didn't win because we use real votes instead of binary votes. Similarly, using binary votes and ignoring real votes, Dr. Peterson's study does not support his conclusions that the district's configuration was due to racial motivation.

17.   The binary analysis of the 2008 presidential vote illustrates the bias inherent in Dr. Peterson's segment analysis report. His method fails to account for critical real-world issues such as the number of votes cast in a VTD (precinct) or that the inclusion of a particular VTD was clearly determined by other factors such as connecting major population centers within the district. It grossly overstates the importance of VTDs with relatively small populations as well as ignores the fact that the choices influencing the inclusion or non-inclusion of a specific VTD are governed by many complex factors, not the bivariate choices Dr. Peterson's method artificially creates.

18.   There is another factor which Dr. Peterson misses altogether: just as the 2001 12th District was drawn by the then-Democrat majority using political considerations as the overriding motivation, the same was true for the 2011 enacted 12th District. The only difference is that Republican political motivations prevailed because, in this redistricting cycle, Republicans held majorities in both chambers of the General Assembly.

19.   The General Assembly's goal was to strengthen the 12th District for Democratic candidates to make the surrounding districts more competitive for Republican candidates. The Democrats' motive in 2001 was to spread as much Democrat voting strength as possible to neighboring Democratic target districts, most particularly the 8th and 13th Districts.

20.   When the Democrats controlled the General Assembly in 2001 the map divided Guilford County's highly Democratic community between the 12th and 13th Districts. This allowed them

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to create a highly Democratic 13th District that was 110 miles in length, and linked urban areas ranging from Greensboro to Raleigh. This district was not even contiguous by North Carolina's current standards which do not allow contiguity by only a point.

21. By contrast, Plaintiffs are now complaining about the newly created 4th District which links together urban areas in a district which is also highly Democratic. However, in contrast, it is only 87 miles in length and is contiguous by North Carolina's current standards. Both alternative congressional maps presented to the General Assembly contain variants of the former 13th congressional district, with the SCSJ map still containing the unconstitutional point contiguity in Guilford County which was contained in the 2001 map. The Stein map still contained a district running from Greensboro to Raleigh. Both of these districts span a length greater than the 4th District enacted by the General Assembly in 2011.

22. The 2001 13th District was supported by the Democrats and their allies as long as it suited their political needs. Democrats now oppose a similarly shaped 2011 4th District because it is adverse to their political preferences.

III. LEGISLATIVE DISTRICTS CONFORM TO THE STATE CRITERIA

23. Defendants have also asked me to address Plaintiffs' contention that the geographic shapes of some of the minority districts contained in the General Assembly's 2011 House and Senate plans were caused by race, and that some Voting Rights Act (VRA) districts were drawn with TBVAP percentages that were too high, i.e. in excess of 50%. While race was a factor in the decision to draw TBVAP majority districts, as is always the case any time one attempts to comply with the VRA, the specific location and geographic shape Enacted Plans' districts was a function of adherence to the *Stephenson* criteria. The geographic shapes of these districts were

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also affected by the residences of the minority incumbents. Plaintiffs' assertion is the result of the Plaintiffs' failure to use the criteria required by the *Stephenson* decision and the formulaic draw which strict adherence to the criteria requires.

24.   A short review of the *Stephenson* criteria is helpful in understanding how the General Assembly's maps were constructed. Assuming for the moment that the VRA did not exist, the constitutional provision which *Stephenson* interprets would create a drafting formula for districts in the State which would eliminate nearly all political discretion. The formula requires that the map contain the maximum number of single-county groups, then the maximum number of two-county groups, then the maximum number of three-county groups, and so on, that can be drawn within a population deviation of +/- 5% from the ideal district population. More often than not, following this formula will yield only one allowable combination of counties in county groupings. Because there would be multi-member districts within each county, the formula would, essentially, draw the map.

25.   The *Stephenson* decision harmonized the formulaic draw described above with the requirement of the VRA and the State's Equal Protection clause. The VRA and the State's Equal Protection clause require the use of single-member districts throughout any map. Inside each county group, the number of county line traversals should be minimized. The *Stephenson* decision recognized the supremacy of federal law and, therefore, required that any maps drawn in North Carolina should insure compliance with one person/one vote and the requirements of the VRA before compliance with the *Stephenson* county-grouping formula. The *Stephenson* court also directed that its criteria should not be disregarded unless majority TBVAP districts (50% or greater TVAP minority population) were being created as defined by the federal court's *Strickland* decision. As a result, the court requires that any map drawer first identify possible

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VRA districts. However, any such districts are to be drawn in a manner which allows for maximum compliance with the *Stephenson* county grouping criteria.

26.   The requirements of the federal "one person, one vote" mandate are met by the *Stephenson* decision's more restrictive requirement that all district population deviations from the ideal district population (the total population of the State divided by the number of districts in each respective chamber) must stay within plus or minus 5%. Furthermore, the *Larios* decision also requires that there not be an impermissible pattern of district deviations favoring regions of the state, urban areas versus rural areas, districts favorable to one political party versus another, or one or more racial groups.

27.   When a redistricting expert first examines probable redistricting possibilities in any state, it is advisable to first determine how the VRA applies to the state's demographics. In my examination of North Carolina, at the direction of each chamber's redistricting chairman, I followed this procedure.

28.   After I became thoroughly familiar with the 2010 Decennial Census data for North Carolina, the following conclusions became clear in regard to General Assembly's VRA house districts:

    1)   There was a sufficiently compact African-American population in the northeastern section of the State to encompass six TBVAP majority districts (50% or more TBVAP). These districts were clearly justified under the *Gingles* standards.

    2)   House Districts 21, 47 and 48 were located in areas of sufficient minority compactness and strength to be drawn as TBVAP majority districts in the General Assembly's 2011 Plan, except that District 47 would be a 18+ majority Native-American

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district. The presence of sufficiently compact minority concentrations in each of these areas justified the creation of these districts under the *Gingles* standards. All three of the house plans submitted by Plaintiffs contain configurations for these districts similar to those contained in the General Assembly's 2011 Enacted House Plan. When evaluating compactness for the other VRA districts in the Enacted Plan, it is important to note that Districts 21 and 48 cannot be drawn in a much more compact configuration.

3)   A new TBVAP majority house district can be drawn centered in the Wilmington area. This district, in comparison to Districts 21 and 47, would be fully compliant with the *Gingles* compactness standards.

4)   Two TBVAP majority house districts could be drawn in Cumberland, Durham and Wake Counties which met the *Gingles* standards requiring sufficient compact minority strength. The same is true for three possible TBVAP majority house districts drawn in Guilford County and five TBVAP majority districts drawn in Mecklenburg County. All 14 of these districts embraced sufficiently compact African-American communities to be justified under the *Gingles* standards.

5)   In Forsyth County, there is a sufficiently compact African-American community to create either two 40% plus African-American house districts or one 50% plus district and one district with a TBVAP population percentage in the low 40% range.

29.   The distribution of the minority populations within North Carolina was apparent to me from almost the beginning of the line-drawing process and consistent with my review of the State's demographics from prior redistricting cycles. The challenge was not the ability to draw the 27 districts mentioned above. It was, rather, the requirement to optimally comply with the

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Stephenson county-grouping and other criteria while still meeting the federal one person/one vote and VRA mandates which made drafting difficult, requiring the resulting district configurations.

30.   As proof that I was correct in my original assessment, I have prepared two exemplar maps for the Court to demonstrate one of many possible compact minority district configurations which could be drafted without reference to either county or VTD boundaries. (*See* Exhibits 1 through 6 containing the maps and relevant data for the House Exemplar Plan). This assessment must be done at the census block level to determine exactly where the compact concentrations of minority population are located. This assessment must also be done without possible limiting interference from either state criteria or by the locations of state or county jurisdictional or administrative boundaries. Two of the least compact minority district configurations in the exemplar maps are districts 21 and 48 which all parties in the case agree are required by the VRA. The other exemplar districts in both the House and Senate Exemplar Plans are no less compact than these two districts.

31.   The General Assembly's redistricting committee chairmen also adopted a policy which, within the *Stephenson* and federal mandates, would not disproportionately combine residences of incumbents of either party together into single districts.

32.   The redistricting committee chairs further adopted a policy of locating African-American incumbents alone within African-American majority districts.

33.   The redistricting chairmen further directed that the drafted plans should avoid any violations similar to those which caused the federal court to invalidate Georgia's 2011 House of

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Representatives map in the *Larios* case. This, however, would be unlikely because of the formulaic county grouping process mandated by *Stephenson*.

34.   Another vital consideration was the construction of plans which would be supported by a majority of the members of each chamber of the General Assembly.

35.   These additional requirements, to the extent possible within the restrictions imposed by *Stephenson* and the federal mandates, had to be followed in the creation of each plan.

36.   In the drafting of the Enacted 2011 House Plan, the most difficult districts to draw were the 11 multiple-county districts (including a possible Wilmington-based district) in the northeastern and south-central part of the State. As each multi-county minority district was constructed, the *Stephenson* county groups needed to be recalculated and realigned to ensure maximum compliance with the *Stephenson* county-grouping criterion. This, in turn, would require a subsequent reexamination of the possible configuration of the VRA districts, which, if changed, would require yet another reexamination of the county-group, and so on. Many iterations of this process were necessary to determine the proper configuration of the VRA districts which allowed for the maximum compliance with all the *Stephenson* criteria. Often, these reconfigurations rippled great distances across the State.

37.   The 16 minority districts drawn within single counties did not require reconfigurations of the county groups. The only thing that needed to be avoided within each of these counties was the isolation of an area of population that did not fall within the range of population for a single district. An example of this can be seen in Mecklenburg County, where the multi-district group containing the 5 contiguous minority districts in the Exemplar Map bisects the county causing an unworkable population to be isolated in the far north of the county.

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38. Even in the case of districts contained entirely with a single county, a change in the county group in which they were located would change the population of all the districts drawn in that group. This, in some cases, necessitated higher populations for VRA districts which, in turn, made it more difficult to draw these VRA districts with a TBVAP percentage above 50.

39. The drafting framework adopted by the Redistricting Committee Chairmen, in conformance with *Stephenson*, was to draft all of the VRA districts first, while constantly readjusting all the county groups as necessary to maintain maximum conformance with the *Stephenson* grouping criterion. After the VRA districts were constructed and the county groups were finalized, all the other districts would then be drafted in conformance with the other *Stephenson* criteria and the other criteria mandated by the Redistricting Chairmen.

40. The process of how the VRA districts were developed, taking all the considerations described above into account while ensuring maximum compliance with *Stephenson*, is described below:

41. I already determined that 6 contiguous African-American house districts could be drawn in the northeast part of the State. Three of these districts were drawn by following the optimal *Stephenson* county groupings and other criteria.

42. District 32 was drawn within the four-county group of Granville, Person, Vance and Warren Counties. District 32 contained all of Vance and Warren Counties and a portion of Granville County (50.45% 18+TVAP). The remainder of Granville County was combined with Person County to form District 2. There are no unnecessary county line traverses in this group.

43. District 27 was coterminous with the boundaries of the two-county pair of Halifax and Northampton Counties (53.71% TBVAP).

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44.   District 23 was drawn entirely within the two-county pair of Edgecombe and Martin Counties (51.83% TBVAP).

45.   After constructing Districts 23, 27, and 32, it was apparent that the three African-American incumbents did not reside in these districts. Anne Mobley lives close to the Bertie-Hartford County line. Angela Bryant lives in Rocky Mount in Nash County and Jean Farmer-Butterfield lives in the City of Wilson in Wilson County. However, as discussed above, this problem was solved because there were three additional African-American districts that could be constructed. The only issue was that these three additional districts had to be drawn with maximum conformance with the *Stephenson* county-grouping criterion.

46.   Wilson County has the correct population to form a single house district entirely within its borders. The problem is that Wilson has a population that is only 38.19% TBVAP, not enough to constitute a majority TBVAP District. Creating this single-county district would isolate Rep. Farmer-Butterfield in a majority white district, which violated the requirements of the VRA, the *Stephenson* requirements, and the policy of the General Assembly not to place African-American incumbents outside a majority African-American district. The decision was made to combine Wilson and Pitt Counties and create two house districts within that two-county group. This entailed a double traverse between Pitt and Wilson Counties. Both are departures from the strict *Stephenson* county-grouping criteria which could only be justified by the creation of a 50% or better TBVAP district. This requirement was then satisfied by creating District 24 for Rep. Butterfield (57.33% TBVAP) and District 8 for Rep. Edith Warren, a white incumbent.

47.   The eight-county group of Bertie, Camden, Chowan, Gates, Hertford, Pasquotank, Perquimans and Tyrell has sufficient population to contain two districts. The entire counties of
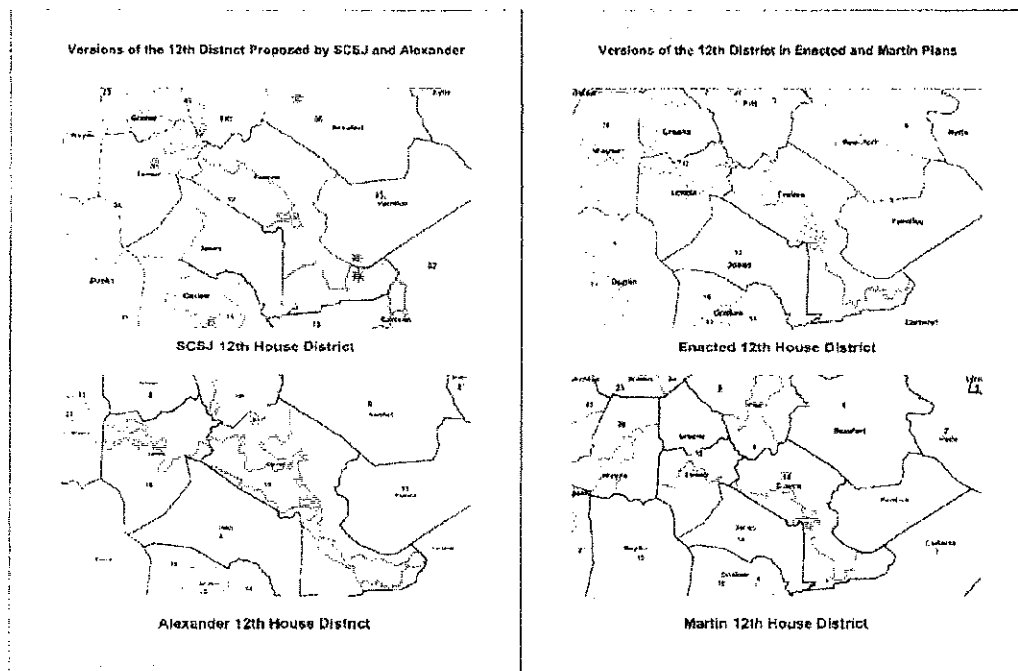
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Bertie, Gates and Hertford were combined with a portion of Pasquotank to form the 5th District for Rep. Anne Mobley (54.17% TBVAP). The remaining five whole counties were combined with the remainder of Pasquotank to form the 1st District in which 2010 incumbent Rep. William Owens resided. If it had not been possible to draw a majority African-American district in this eight-county group, *Stephenson* would have required that this group be split, which in turn would have caused yet another iteration of the State's grouping configuration which would have rippled across the State.

48.   The two-county group of Nash and Franklin also had sufficient population to contain two house districts. The *Stephenson* criteria dictated the formation of another majority African-American district as well as a district in which Rep. Angela Bryant would reside. District 7 (50.67% TBVAP) was created for Rep. Bryant and the shape of the district was dictated by the requirements of the *Stephenson* criteria. The remaining territory within the two-county group formed District 25 in which 2010 incumbent Jeffrey Collins resided. A double traverse of the boundary between Franklin and Nash Counties was allowable under *Stephenson* only if a 50% plus TBVAP district was created.

49.   As with the House Exemplar Plan, the first map of proposed minority districts released by the General Assembly in June of 2011 contained a TBVAP majority district based in the Wilmington area. It is important to note that the district released by the Redistricting Chairman was markedly different from the comparable district in the Exemplar Map. This was because the released district had to be constructed in conformance with the *Stephenson* county-grouping criterion. After objections were raised to that district (House District 18) in a public hearing, the working map of the house districts was modified to delete a majority African-American district in that area. This reconfiguration required that the two-county group of Brunswick and New

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Hanover Counties be reformed, and the entire State had to be reanalyzed to ensure that the optimal sets of county groupings were contained in the General Assembly's Plan. This was yet another iteration required by the *Stephenson* criteria.

50. The House Exemplar District and the SCSJ House plans indicate that a more compact African-American District 12 can be formed using a portion of Jones County. However, the more compact form of District 12 could not be drawn within the optimal *Stephenson* groupings. Jones and Carteret Counties formed a two-county group in both the 2009 and 2011 House Plans. The shape of District 12 in the Enacted Plan (50.60% TBVAP) is caused by conformance with *Stephenson*. It is important to note that the African-American population contained in the Enacted District 12 is very similar to the population that is included in the more compact form in the Exemplar Map. For this reason, a majority TBVAP district was formed within Greene, Lenoir, and Craven Counties. An interesting comparison can be made concerning the shapes of the different versions of the 12th House District contained in the maps submitted to the General Assembly or introduced as bills at the very end of the redistricting process. As the four maps below demonstrate, similar configurations of the 12th District were contained in all these plans. The shape of the 12th District was also negatively influenced by the placement of the incumbent's residence at the far southeastern corner of Craven County.

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Versions of the 12th District Proposed by SCSJ and Alexander

Versions of the 12th District in Enacted and Martin Plans

SCSJ 12th House District

Enacted 12th House District

Alexander 12th House District

Martin 12th House District

51.   The Enacted 21st District (51.90% TBVAP) is still based in Sampson and Wayne Counties, as was the 2009 version of that district. The Enacted Plan also moves that district into Duplin County to include approximately 10,000 more persons as required by the higher 2011 average district population. This district's configuration is much the same as found in the Alexander, Martin, and SCSJ Plans. The primary difference in the shape of the 21st District in these plans is that the Enacted Plan's shape allows maximum conformance with the *Stephenson* county-grouping criteria which also mandated a district with a much larger population than the other plans' 21st Districts.

52.   The larger district populations required for the Enacted Districts in that Plan's 20-county grouping were required to avoid a 121-district plan. This paradox has been explained in my earlier affidavit and is caused by a number of county groups having a low average deviation within them. Among those is Mecklenburg County, which has 12 districts. The four majority-

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minority districts (Enacted Districts 12, 21, 47 and 48), plus the other districts contained within the 20-county group, all had to have average deviations from the ideal district population approaching the maximum higher limit allowed by the *Stephenson* population criterion. This was necessary to allow that county group to "absorb" the 121st district. This was further exacerbated by the need to draw the Enacted 12th District at a lower population than the other districts in the 20-county group to comply with the *Stephenson* requirement that a majority TBVAP district be drawn which would still fit it inside the 20-county group. This need to fit the district within the county grouping and draw within a very narrow band of population deviations, greatly affected the shape of this district, and the number of VTDs which had to be divided.

53.   Moreover, the *Stephenson* criteria also dictate that, within a county group, the traversal of county lines should be minimized to the extent that the deviation required by one person/one vote will allow. If this criterion, or any other *Stephenson* criteria is violated, it can only be justified by creating a majority-TBVAP or majority VAP Native-American district (50% or higher as defined by the *Strickland* decision). It was the policy of the Redistricting Chairmen to strictly obey these requirements. This explains the minority percentages and configurations of the three TBVAP districts: District 12 (50.60% TBVAP), District 21 (51.90% TBVAP) and District 48 (51.27% TBVAP), as well as the majority Native-American District 47 (50.97% TNAVAP), located within the 20-county group.

54.   Throughout the evolution of the Enacted House Plan, constant reiterations of the State's county groupings was required to maintain maximum conformity with the *Stephenson* mandates, including forming and dissolving the county groups containing possible majority minority districts while the grouping structure rippled back and forth across the remainder of the State to ensure maximum compliance. Strict adherence to the *Stephenson* criteria limited the political

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discretion of the General Assembly in its construction of county groups and the drawing of the districts.

55.   Development of the Enacted Senate Plan followed much the same course as the Enacted House Plan. As was the case in my initial study of the State's demographics to ascertain the number of possible House VRA districts, I quickly determined that the following VRA senate districts were possible:

1) Three majority TBVAP districts could be created in the northeastern portion of the State.

2) One majority TBVAP district could be created anchored in Cumberland County.

3) One majority TBVAP district could be anchored in Durham County, one constructed entirely within Guilford County, and one constructed entirely within Wake County.

4) Two majority TBVAP districts could be created in Mecklenburg County.

5) One majority TBVAP district could be created in Forsyth County with an African-American population in the 40% range that could be raised above 50% if a portion of Guilford County could be attached.

6) A mixed African-American/Native-American majority VAP district could be created in Robeson and Columbus Counties.

56.   I have attached a series of maps and data charts (*See* Exhibits 7 through 11) for a senate exemplar plan which proves the correctness of my initial observations that these compact VRA senate districts were capable of being constructed.

57.   Somewhat further along in the plan drafting process it was also ascertained that an additional African-American majority senate district could be drawn in the southeast portion of the State. This district, however, was not approved by the Senate Redistricting Chairman for inclusion in the final series of maps.

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58.   The process by which the VRA districts in the Enacted Senate Plan were drawn is described below. A similar iterative process to that required in the drafting of the House map was required to draft a Senate map fully compliant with the *Stephenson* criteria.

59.   Beginning in the northeast portion of the State's, Enacted Senate District 3 was constructed out of the eight whole counties of Bertie, Chowan, Edgecombe, Hertford, Martin, Northampton, Tyrell and Washington (52.43% TBVAP).

60.   District 5 was drawn within the four-county group of Green, Lenoir, Pitt and Wayne Counties. This district contained portions of all four counties and had a TBVAP percentage of 51.97. The remaining portions of the counties in this group became the Enacted District 7.

61.   The remaining northeastern majority African-American District 4 was formed in the northern end of a ten-county group containing Duplin, Halifax, Harnett, Johnson, Lee, Nash, Sampson, Vance, Warren and Wilson Counties. The Enacted 4th District contained all of the counties of Halifax, Warren and Vance along with portions of Nash and Wilson Counties. The district has a TBVAP percentage of 52.75.

62.   The Enacted 3rd and 4th Senate Districts' TBVAP percentages are higher than their counterparts in the Nesbitt and McKissick Plans but are in the same ranges as those contained in the SCSJ Plan. The SCSJ Plan was the only plan available to the General Assembly until just before passage of the final Senate Plan.

63.   Cumberland and Hoke Counties are a two-county group containing two senate districts as required by the *Stephenson* criteria. The *Stephenson* criteria also require that Hoke should remain whole unless its division is required by the VRA. Also since Hoke is a county covered by Section 5 of the VRA, it was included in TBVAP majority District 21 (51.53% TBVAP).

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64.   Robeson and Columbus Counties became Enacted District 13, a non-performing mixed African-American/Native-American District (26.37% TBVAP, 26.49% 18+ Native American and 40.43% 18+ Non-Hispanic White). This pairing, therefore, was required by *Stephenson*.

65.   Caswell, Durham, Granville, and Person Counties form a four-county group containing two senate districts that are required by the *Stephenson* criteria. The *Stephenson* criteria also require that Caswell, Granville, and Person Counties should remain whole unless their division is required by the VRA. Also, since Granville is a county covered by Section 5 of the VRA, it was decided to include Granville in African-American majority District 20 (51.04% TBVAP). Durham was the only county divided between the two districts in the county group; with the other district being District 22.

66.   Forsyth County was combined with Yadkin County under the *Stephenson* criteria, which resulted in an average district population within that group that was higher than in the SCSJ's senate map. Thus, enacted District 32 (42.53% TBVAP) was formed entirely within Forsyth County, with the remainder of Forsyth County and all of Yadkin County, forming the enacted district. This minority percentage was intended to meet the minority percentage contained in the SCSJ map for this district, which it did. However, it contains more total population than the SCSJ district because it was drawn within a county group with higher average district populations than in the equivalent group in the SCSJ map.

67.   The remaining four majority-minority senate districts contained in the Enacted Map are all contained within single counties. They are Districts 38 and 40 in Mecklenburg County (52.51% and 51.84% TBVAP respectively); District 14 in Wake County (51.28% TBVAP); and District 28 in Guilford County (56.49% TBVAP).

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68.   The General Assembly's success in *Stephenson* compliance is demonstrated by the fact the no map with greater compliance with the county grouping criterion was introduced or submitted to the General Assembly before the House or Senate plans were enacted. This was the primary criterion among all the *Stephenson* criteria. Comparing the Enacted Plans with other plans in terms of other Stephenson criteria is inappropriate unless those other redistricting plans match or exceed the Enacted Plans' adherence to the county grouping criterion and the number of VRA districts.

IV. MISCELLANEOUS OBSERVATIONS

69.   Populations of the districts in the two exemplar plans often were too high or low to fall within range of possible deviations within the *Stephenson* required county groups.

70.   A factor which influenced the levels of African-American percentages within each county group, particularly those within urban groups, was the mixed signals sent by the SCSJ's plans. Many of the SCSJ districts with African-American incumbents were drawn with percentages well above 50% while some other minority districts (as defined by Plaintiffs) were drawn with African-American percentages below 50%. Additionally, the SCSJ's expert report to the Redistricting Committees in a public hearing said that there was racially polarized voting in North Carolina.

71.   I have read the affidavits filed in this case by Dr. Alan Lichtman and Dr. Theodore Arrington, which were submitted after the General Assembly's redistricting plans were enacted. Arrington asserts African-Americans can be elected at 42% TBVAP. Lichtman contends that effectiveness can be attained somewhere between 40% and 49%+ TBVAP. Thus, even Plaintiffs' experts are unclear on this issue.

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72.   I am not aware of any court decision which finds a majority-minority district to be illegal if it includes any minority population in excess of an "alleged" minimum minority population necessary for the district to be effective. Such an evaluation must, if even possible, be made on a district-by-district basis, and would include a comprehensive examination of past election results, voter turnout by party and race/ethnicity, past candidate funding and effectiveness, the effect of incumbency, the levels of racial block voting in past primary and general elections, historical voting patterns of white voters who could be added to a new district, and the presence and reliability of levels of cohesion between possible coalition supporting minority candidates.

73.   Because new districts in minority areas of North Carolina will contain new areas and lose other areas, all of these examinations must be adjusted to account for the territorial shifts. In many cases, voters added to a district may modify their voting behavior as they are shifted between districts with different political and demographic characteristics.

74.   Because of the complex interaction of all these factors, it is really impossible to determine the minimum TBVAP percentage that will produce a performing minority district. Determining the minimum percentage of minority population required for a specific district, while still avoiding setting it too low, is far too specific a target to hit when there are so many factors involved and the metrics for measuring them are so imprecise. It is for all these reasons that the General Assembly employed the more workable bright-line standard announced by the U. S. Supreme Court in Justice Kennedy's opinion in *Bartlett v. Strickland*, and which is also supported in the North Carolina's Supreme Court's *Stephenson* decisions.

75.   Given the percentages that Lichtman and Arrington's theories imply, keeping track of all these factors while drafting complete new maps is unmanageable, and almost impossible to

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complete in time for plans to be precleared under Section 5 of the VRA, and voters to be assigned to districts in time for North Carolina's primary election timetable. Nonetheless, the Enacted House and Senate Plans contained more districts with African-American or Native-American populations in excess of 42% than any of the other plans presented to the General Assembly.

76.   In my multiple decades of redistricting experience in North Carolina, beginning with my testimony in *Gingles* in the early 1980s, and continuing through each subsequent decade, it was always determined that polarized voting existed in this State. I have never seen any evidence to the contrary since my first experience in North Carolina's redistricting process. I carried this universally accepted conclusion forward into the 2011 North Carolina redistrict process. My assumption of the presence of racial-bloc voting was reconfirmed by the SCSJ's testimony during the public hearings long before any district became finalized. The presence of racial bloc voting was also confirmed by Dr. Brunell's subsequent study. Drs. Lichtman and Arrington suggest that the levels of polarization have decreased in North Carolina but still have not asserted that polarization does not still remain at high level.

77.   When drafting all the State's plans, the State's databases, which I used, only included VTD boundaries and not all precinct boundaries.
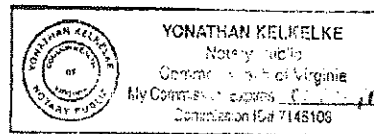
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This the 10th day of December, 2012.

_____ Ph.D.

Thomas B. Hofeller, Ph.D.

Sworn and subscribed before me

this the 10th day of December, 2012.

_____

Notary Public

YONATHAN KELKELKE
Notary Public
Commonwealth of Virginia
My Commission expires _____
Commission ID# 7146106

My commission expires: _AUGUST 31 2015_

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